REMARKS

Rejections

Claims 35-39 are pending in the present application. These claims stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Cleary, *et al.* (Cell, 1986, Vol. 44, pp97-106) ("Cleary") in view of Levy, *et al.*, Journal of Experimental Medicine, 1988, Vol 168 pp475-489) ("Levy") and Embleton, *et al.*, Nucle. Acids. Res., 1992, Vol 20, pp3831-3837) ("Embleton"). For reasons already of record and incorporated here, Applicant respectfully disagrees.

The Examiner interprets the claims as being used to excrete a multivalent composition, and asserts that the combination of Cleary with Levy and Embleton, if one were to use a multitude of different clones produced according to Embleton, could be used to produce an excreted multivalent composition similar to that produced by the method of the instant claims. (Office Action of April 7, 2007, page 3).

For business reasons and without acquiescing to the Examiner's arguments, and reserving the right to prosecute the original or similar claims in one or more future applications, Applicant herein amends Claim 35 to recite "a method of producing a transformed cell that co-expresses a combination of V_H and V_L regions to form a multivalent composition". Claim 35 further specifies that the combination of V_H and V_L regions that forms the multivalent composition is selected from the group consisting of at least one V_H region and at least two V_L regions, at least two V_H regions and at least one V_L region, and at least two V_H regions and at least two V_L regions, wherein said at least two V_L regions differ by at least one idiotope, wherein said at least two V_H regions differ by at least one idiotope (Claim 35, part (f)).

As discussed in the Amendment and Response filed on April 21, 2006, and described by Kwak, et al., (1992) N. Engl. J. Med. 327:1209, B-cell tumors are composed of clonal proliferations of cells that synthesize a single type of antibody molecule that is expressed on the cell surfaces. (Kwak, page 1209, col 1). The idiotypic portion of this surface immunoglobulin serves as a specific marker for the tumor. (Kwak, page 1209, col 1). The recited combinations of V_H and V_L regions co-expressed in the transformed cell of the instant claims are thus necessarily derived from at least two different cells that have different surface immunoglobulins.

Cleary teaches that the rearranged variable regions of cells in a B-cell tumor can develop somatic mutations. (Office Action mailed 7/12/06, page 3). Levy is provided as corroborating the observations of Cleary and teaching that the light chain genes mutate independently of the heavy chain genes (Office Action page 4). The Examiner admits that Cleary does not teach a multivalent idiotypic vaccine which would contain the variant V_H sequences which would comprise more than one idiotype and variant V_L sequences which would comprise more than one idiotype (Office Action mailed pages 3-4), and does not assert that Levy teaches such a composition. Neither Cleary nor Levy teach a multivalent composition as described in the instant claims, nor do these references suggest a transformed cell that co-expresses V_H and V_L regions derived from at least two different tumor cells that have different surface immunoglobulins. Both Cleary and Levy also fail to teach or suggest any method of producing such a transformed cell, much less the specific method of the presently claimed embodiments.

The combination with Embleton fails to cure this deficiency. Embleton teaches methods of amplifying immunoglobulin genes from within single cells so as to preserving the natural pairings of V_H and V_L regions, so as to avoid mixtures comprising the DNA of mixed populations of cells. See, *e.g.*, Abstract and second column on page 3831. Embleton fails to teach or suggest a transformed cell that co-expresses V_H and V_L regions derived from at least two different cells that have different surface immunoglobulins. Embleton also fails to teach or suggest any method of producing such a transformed cell, much less the specific method of the presently claimed embodiments.

Prima facie obviousness requires at least a teaching or suggestion of all the limitations of the claims. See, *e.g.*, MPEP § 2143. The combination of Cleary, Levy and Embleton references fails to teach or suggest all of elements of the instantly claimed methods, and also fails to teach the transformed cell produced by the claimed methods. For the reasons discussed above, Applicant submits that this combination of references fails to establish the obviousness of the claimed embodiments of the invention, and respectfully requests that this rejection be withdrawn.

CONCLUSION

For the reasons set forth above, it is respectfully submitted that all reasons for rejection have been addressed and that Applicant's claims should be passed to allowance. Should the Examiner believe that a telephone interview would aid in the prosecution of this application, Applicant encourages the Examiner to call the undersigned collect at (608) 218-6900.

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